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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Sam-Chul Ha

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EXAMINER

ADHAMI, MOHAMMAD SAJJID

ART UNIT

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2471

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,617	<b>Applicant(s)</b> HA ET AL.	
	<b>Examiner</b> MOHAMMAD S. ADHAMI	<b>Art Unit</b> 2471	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-8,10,15,16,18-20 and 58-63 is/are pending in the application.
- 4a) Of the above claim(s) 1-3,5-8 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10,15,16,18-20,58-63 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

- Applicant's amendment filed 3/31/2010 is acknowledged.
- Claims 10,15,16, and 18-20 are amended.
- Claims 4,9,11,13,14,17, and 21-57 are cancelled.
- Claims 58-63 have been added.
- Claims 1-3,5-8, and 12 are withdrawn.
- Claims 1-3,5-8,10,15,16,18-20, and 58-63 are pending.
- Applicant's response and amendment with respect to the rejection of claims 15,16,18-20,27,33,35,43,46,50,51, and 53 under 35 USC 112 2nd paragraph is noted and the rejection is withdrawn.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 10,15,16,18-20 and 58-63 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As amended, claims 10 and 58 recite *a competitive window based on a priority and a retry-count*. After carefully examining the instant disclosure, the

examiner respectfully submits that support for this amendment is lacking and the addition of said limitation is new matter. The specification discloses a competitive window based on a priority, but it does not disclose a competitive window based on a priority and a retry-count.

Claims 15,16,18-20, and 59-63 are rejected because they depend from a rejected claim.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10,15,16,18-20, and 58-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raphaeli (US App. 2003/0103521) in view of Sato (US 6,718,159).

#### **Re claims 10 and 58:**

Raphaeli discloses *a physical layer* (Para.[0095] Each device comprises a PHY or physical layer and Fig.2 ref.28).

Raphaeli further discloses *an upper layer* (Para.[0095] Each device comprises a link layer and upper layers and Fig.2 ref.26 and 24).

Raphaeli further discloses *a data link layer transmitting a packet from the upper layer to the physical layer* (Fig.2 ref.26 – where MAC is a data link layer and transmits packets from the upper layer to the physical layer).

Raphaeli further discloses *the data link configured to wait until a transmission of data through the medium is terminated* (Fig.22 ref. End of Last Transmission and Backoff).

Raphaeli further discloses *sense, after the transmission is terminated, whether the transmission medium is idle during a predetermined time interval* (Fig.20A ref.206 Channel Free? and Para.[0099] Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) and Para.[0036] establishing a channel contention period upon termination of a current transmission session).

Raphaeli further discloses *wherein priority is assigned to a message packet to be transmitted by the apparatus* (Para.[0033] Also included in the protocol are QoS features including multi-level priority classes).

Raphaeli further discloses *obtain, if the transmission medium is idle during the predetermined time interval, a competitive window based on a priority and a retry count, wherein the retry-count indicates how many times the message packet is tried to be transmitted* (Fig.20A ref.202 CW = CWMin and Para.[0215] and Para.[0258]).

Raphaeli further discloses *select a transmission delay time (RandomDelayTime) randomly between a minimum value of the competitive window and a maximum value of the competitive window* (Fig.20A ref.204 Backoff = Random (0-CW)).

Raphaeli further discloses *check whether the transmission medium is idle during the selected transmission delay time (RandomDelayTime) (Fig.20A ref.206 Channel Free?)*.

Raphaeli further discloses *transmit, if the transmission medium is idle during the transmission delay time, the message packet to the physical layer (Fig.20A ref.214 Transmit Packet)*.

Raphaeli further discloses *perform, if the transmission medium is not idle during the transmission delay time, an adjusting operation, wherein the adjusting operation comprises incrementing the retry-count, and incrementing the maximum value of the competitive window by a predetermined shifting value (Fig.20B ref.232 Adjust contention window and randomize new backoff and Para.[0186] the number of retries is incremented)*.

Raphaeli does not explicitly disclose *a predetermined time interval determined regardless of priority*.

Sato discloses *a predetermined time interval determined regardless of priority (Col.6 lines 9-13 after a predetermined period of carrier send when the idle states of the respective stations are confirmed and Fig.11 ref. 125)*.

Raphaeli and Sato are analogous because they both pertain to data communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Raphaeli to include a predetermined time interval

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determined regardless of priority as taught by Sato in order to defined period to sense if the channel is idle.

**Re claims 15 and 59:**

Raphaeli discloses *determine whether or nor the message packet is successfully transmitted* (Fig.14 ref.94).

Raphaeli further discloses *increment, if the message packet is not successfully transmitted, the retry count (RetryCount) by a predetermined value* (Fig.14 ref.104).

Raphaeli further discloses *compare the retry count (RetryCount) and a predetermined backoff repeat times (BackOffRetries)* (Fig.14 ref.102).

Raphaeli further discloses *transmit, based on a result of the comparing, a transmission result to the upper layer* (Fig.12 ref.100 and ref.106 and Para.[0245] This pattern is repeated until the number of retransmissions has been exhausted. The upper communication layers will be notified).

Raphaeli does not explicitly disclose *comparing the increased retry count*.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Raphaeli to include comparing the increased retry count in order to use an updated value for counting retransmissions.

**Re claims 16 and 60:**

Raphaeli discloses *if, according to the result of comparison, the increased retry count (RetryCount) is greater than the backoff repeat times*

*(BackoffRetries), the transmission result comprises a failure message (SEND-FAILED) (Fig.14 ref.106).*

**Re claims 18 and 61:**

*Raphaeli discloses compare a transmission execution time of the message packet and a predetermined maximum transmission allowable time (MACExecTime) before incrementing the retry-count (Fig.20B ref.216 Timeout?).*

**Re claims 19 and 62:**

*Raphaeli discloses transmit, based on a result of the comparison, a transmission result to the upper layer (Fig. 20B ref.228 and Para.[0245] This pattern is repeated until the number of retransmissions has been exhausted. The upper communication layers will be notified).*

**Re claims 20 and 63:**

*Raphaeli discloses if, according to the result of the comparison, the transmission execution time of the message packet is greater or equal to the maximum transmission allowable time (MACExecTime), the transmission result comprises a failed message (SEND\_FAILED) (Fig.20B ref.228).*

***Response to Arguments***

3. Applicant's arguments with respect to claims 10 and 58 have been considered but are moot in view of the new ground(s) of rejection.
4. Applicant's arguments filed 3/31/2010 have been fully considered but they are not persuasive.



In the remarks, Applicant contends Raphaeli does not disclose waiting a predetermined time with just sensing after a transmission of data through the transmission is terminated.

The Examiner respectfully disagrees. Raphaeli does disclose waiting a predetermined time with just sensing after a transmission of data through the transmission is terminated (Fig.20A ref.206 Channel Free? and Para.[0099] Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) and Para.[0036] establishing a channel contention period upon termination of a current transmission session and Para.[0213]). The claim is not limited to always or only waiting a predetermined interval.

In the remarks, Applicant contends Raphaeli does not disclose a range of competitive window based on priority and retry-count.

The Examiner respectfully disagrees. Raphaeli discloses a range of competitive window based on priority and retry-count (Fig.20A ref.202 CW = CWMin and Para.[0215] and Para.[0258] if the number of retries is less than the RTS/RZ the size of the CW is adjusted).

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD S. ADHAMI whose telephone number is (571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad S Adhami/  
Examiner, Art Unit 2471

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